Amphenol SV MICROWAVE®
RF Connectors & Components

MIL-DTL-3933 Attenuators

FEATURES & BENEFITS

- Low VSWR
- Environmental standards per MIL-STD-202
- Attenuators meet requirements of MIL-DTL-3933
- Wide range of attenuation values available

APPLICATIONS

- Test and Measurement
- Satellite Payloads
- Circuit Boards

MIL-DTL-3933 Attenuators

MIL-DTL-3933/25 Attenuators

SV Microwave offers military SMA attenuators in accordance with MIL-DTL-3933/25. QPL - 3933 parts are designed and made under DSCC qualifications in order to withstand harsh environments within military applications. Hi-Rel versions also available.

These fixed SMA coaxial attenuators operate under low power and frequency range of DC - 2 GHz up to DC - 18 GHz. These attenuators are small in size and are used in applications where space is at a premium.

Specifications

Material

Bodies and coupling nut	Stainless steel per AMS-5640
Lock ring and contacts	Beryllium copper per ASTM B196
Sleeve	Brass per ASTM B16
Insulators	PTFE per ASTM D1710
Gasket	Silicone rubber per ZZ-R-765, Class I, IB, Grade 50/60
Resistor element	Aluminum nitride substrate with tantalum nitride resistor, Gold plated terminations

Finish

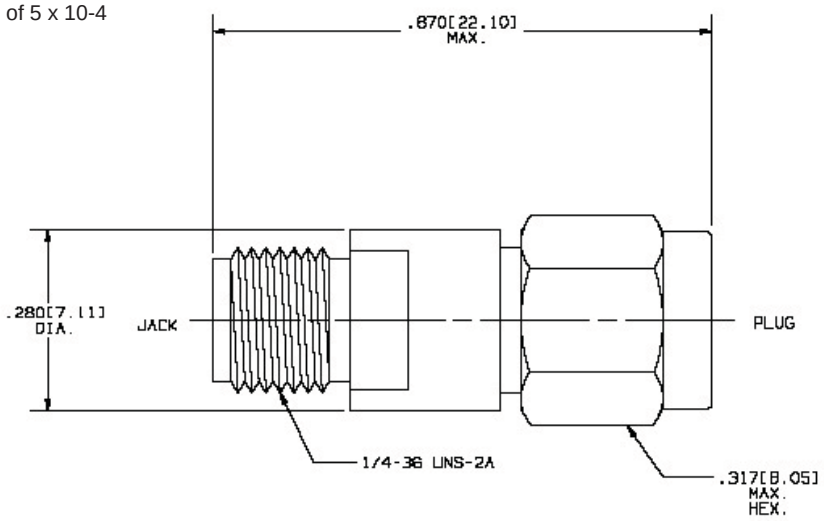
Bodies and coupling nut	Passivated per AMS-QQ-P-35, Type I I
Contacts and sleeve	Gold per ASTM B 488, Type I I, Grade C, Class 1.52, Over nickel per AMS-QQ-N-290, Class 1

Performance

Impedance	50 Ohms
Frequency range	DC - 18.0 GHz
Average power	2.0 Watts (Note 1)
Peak power	500 Watts (Note 2)

Notes:

1. Power input related linearly from 25°C to .5 Watts at 125°C.
2. Peak power for a duty cycle of 5 x 10-4



SV Microwave is qualified to manufacture MIL-DTL-3933 Attenuators including:

MIL-DTL-3933/14	SMA Attenuators - DC to 12.4 GHz
MIL-DTL-3933/16	SMA Attenuators - DC to 18.0 GHz
MIL-DTL-3933/17	TNC Attenuators - DC to 18.0 GHz
MIL-DTL-3933/18	N Attenuators - DC to 12.4 GHz, DC to 18.0 GHz
MIL-DTL-3933/19	BNC Attenuators - DC to 4.5 GHz
MIL-DTL-3933/25	Miniature SMA Attenuators - DC to 18.0 GHz

MIL-DTL-3933/25 Attenuators

SV Microwave QPL Attenuators Part Number Coding System

To more easily illustrate the ordering procedure for SV Microwave QPL Attenuators, part number **M3933/25-74S** is shown below:

M3933 **/25** **-74** **S or N**

Military designator
Attenuator

Connector interface series
SMA

Dash number designation on specification sheet
18.0 GHz with attenuation of 8.0 dB

S = Screened

N = Non-Screened

Dash Number/dB Values

Frequency DC to 2.0 GHz		Frequency DC to 12.4 GHz		Frequency DC to 18.0 GHz			
Attenuation dB Nominal	Dash Number	Attenuation dB Nominal	Dash Number	Attenuation dB Nominal	Dash Number	Attenuation dB Nominal	Dash Number
				0.0	58 N/S	0.5	59 N/S
1.0	01 N/S	1.0	27 N/S	1.0	60 N/S	1.5	61 N/S
2.0	02 N/S	2.0	28 N/S	2.0	62 N/S	2.5	63 N/S
3.0	03 N/S	3.0	29 N/S	3.0	64 N/S	3.5	65 N/S
4.0	04 N/S	4.0	30 N/S	4.0	66 N/S	4.5	67 N/S
5.0	05 N/S	5.0	31 N/S	5.0	68 N/S	5.5	69 N/S
6.0	06 N/S	6.0	32 N/S	6.0	70 N/S	6.5	71 N/S
7.0	07 N/S	7.0	33 N/S	7.0	72 N/S	7.5	73 N/S
8.0	08 N/S	8.0	34 N/S	8.0	74 N/S	8.5	75 N/S
9.0	09 N/S	9.0	35 N/S	9.0	76 N/S	9.5	77 N/S
10.0	10 N/S	10.0	36 N/S	10.0	78 N/S		
11.0	11 N/S	11.0	37 N/S	11.0	79 N/S		
12.0	12 N/S	12.0	38 N/S	12.0	80 N/S		
13.0	13 N/S	13.0	39 N/S	13.0	81 N/S		
14.0	14 N/S	14.0	40 N/S	14.0	82 N/S		
15.0	15 N/S	15.0	41 N/S	15.0	83 N/S		
16.0	16 N/S	16.0	42 N/S	16.0	84 N/S		
17.0	17 N/S	17.0	43 N/S	17.0	85 N/S		
18.0	18 N/S	18.0	44 N/S	18.0	86 N/S		
19.0	19 N/S	19.0	45 N/S	19.0	87 N/S		
20.0	20 N/S	20.0	46 N/S	20.0	88 N/S		

Electrical Characteristics

		VSWR				
Attenuator Increment (dB)	Attenuation Accuracy (dB)	DC to 2 GHz	2 to 4 GHz	4 to 8 GHz	8 to 12.4 GHz	12.4 to 18 GHz
0.5 to 6.5	± .3	1.10	1.15	1.20	1.25	1.35
7.0 to 8.5	± .4					
9.0 to 14.0	± .5					
15.0 to 20.0	± .6					